

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): An input apparatus for detecting that ~~[[the]]~~ a front surface of a panel is pressed or touched and inputting data corresponding to the detected result, comprising:

a flexible wiring board on which a pattern of ~~predetermined~~ electrodes is formed and in which a pair of through-holes are ~~aligned and~~ formed so as to be aligned with each other; and

a piezoelectric actuator ~~made of that includes~~ a piezoelectric bi-morph device, the piezoelectric actuator including an upper surface and a lower surface on opposite sides of the piezoelectric actuator and being configured positioned on the flexible wiring board so as to bridge the pair of ~~[[the]]~~ through-holes in the flexible wiring board such that end portions on the lower surface of the piezoelectric actuator contact the flexible wiring board at opposite ends of the piezoelectric actuator, a part of the flexible wiring board ~~being formed including a~~ spacer portion that is located between the pair of ~~[[the]]~~ through-holes and that is positioned on the upper surface of the piezoelectric actuator,

wherein the piezoelectric actuator is mounted on the flexible wiring board such that end portions of the upper surface of the piezoelectric actuator or a center portion of the lower surface of the piezoelectric actuator ~~[[is]]~~ are positioned configured to contact the panel through an open portion except for the part of the flexible wiring board when the piezoelectric actuator is actuated.

Claim 2 (Currently Amended): The input apparatus as set forth in claim 1, wherein the flexible wiring board is disposed so that the spacer portion ~~part~~ formed between the pair of ~~the~~ through-holes contacts the panel.

Claim 3 (Withdrawn - Currently Amended): The input apparatus as set forth in claim 1, wherein the flexible wiring board is disposed on the input apparatus so that the end portions on the lower surface of the piezoelectric actuator contact a first ~~one~~ surface of the flexible wiring board, and a second surface of the flexible wiring board that is ~~the~~ opposite the first surface of the flexible wiring board contacts the panel.

Claim 4 (Currently Amended): The input apparatus as set forth in claim 1, wherein the piezoelectric actuator includes wiring terminals ~~are~~ disposed at ~~the~~ a first end ~~portions~~ of the piezoelectric actuator, the wiring terminals being electrically connected to ~~predetermined~~ electrodes formed on the flexible wiring board.

Claim 5 (Withdrawn): The input apparatus as set forth in claim 4, wherein a resistor having a predetermined resistance is connected in parallel with the electrodes disposed on the flexible wiring board, the electrodes being connected to the wiring terminals of the piezoelectric actuator.

Claim 6 (Withdrawn-Currently Amended): The input apparatus as set forth in claim 1, wherein the spacer portion ~~part~~ formed between the pair of ~~the~~ through-holes in the flexible wiring board is straightly cut therebetween.

Claim 7 (Withdrawn-Currently Amended): The input apparatus as set forth in claim 6, wherein wiring terminals formed at ~~[[one]]~~ a first end portion of the piezoelectric actuator and ~~predetermined~~ electrodes formed on the flexible wiring board are soldered and electrically connected.

Claim 8 (Withdrawn-Currently Amended): The input apparatus as set forth in claim 7, wherein ~~the other~~ a second end portion of the piezoelectric actuator contacts the flexible wiring board, the ~~other~~ second end portion of the piezoelectric actuator and the ~~contacted~~ portion flexible wiring board being ~~folder-fixed~~ solder-fixed.

Claim 9 (Currently Amended): The input apparatus as set forth in claim 1, wherein ~~[[the]]~~ a distance between ~~both the~~ outer end portions of the pair of ~~[[the]]~~ through-holes is smaller than ~~[[the]]~~ a length of the piezoelectric actuator in a ~~[[the]]~~ longitudinal direction of the piezoelectric actuator, and a ~~[[the]]~~ width of each of the pair of ~~[[the]]~~ through-holes ~~being is~~ is larger than ~~[[the]]~~ a width of the piezoelectric actuator.

Claim 10 (Currently Amended): The input apparatus as set forth in claim 1, further comprising:

a display portion ~~for displaying~~ configured to display a screen through the panel,
wherein when ~~[[the]]~~ a front surface of the panel is pressed or touched, an operation function item displayed on the display portion is selectively input corresponding to ~~[[the]]~~ a position that is pressed or touched on the front surface of the panel, and

wherein the piezoelectric actuator is disposed outside a display area of the display portion ~~means~~.

Claim 11 (Currently Amended): The input apparatus as set forth in claim 10, wherein the input apparatus includes a plurality of the piezoelectric actuators that are disposed around the display area of the display portion.

Claim 12 (Currently Amended): The input apparatus as set forth in claim 1, wherein the panel is a touch panel that is configured to selectively input an operation function item corresponding to ~~[[the]]~~ a position that is touched, the panel having a display portion ~~for displaying~~ configured to display a screen through the touch panel and a holding portion ~~being~~ that is disposed outside the display area of the display portion and ~~holding~~ that holds the display portion,

wherein when an operation function item displayed on the display screen of the display portion is touched, the operation function item corresponding to the position that is touched is selectively input, and

wherein the touch panel is moved in the vertical direction against the display surface of the display portion and the flexible wiring board is disposed between the touch panel and the holding portion.

Claim 13 (Currently Amended): The input apparatus as set forth in claim 12, wherein the input apparatus includes a plurality of the piezoelectric actuators that are disposed around the display area of the display portion.

Claim 14 (Currently Amended): A method for producing an input apparatus for detecting that ~~[[the]]~~ a front surface of a panel is pressed or touched and inputting data corresponding to the detected result, the method comprising ~~the steps of:~~

forming a pair of aligned through-holes ~~aligned~~ in a flexible wiring board on which a pattern of ~~predetermined~~ electrodes is formed;

inserting a piezoelectric actuator ~~made of that~~ includes a piezoelectric bi-morph device into one of the pair of ~~[[the]]~~ through-holes from a first side surface of the flexible wiring board and then inserting the piezoelectric actuator into the other of the pair of through-holes from a second side surface of the flexible wiring board that is on an ~~[[the]]~~ opposite surface side of the flexible wiring board from the first side surface of the flexible wiring board so that opposite both the ends on a first surface of the piezoelectric actuator in ~~[[the]]~~ a longitudinal direction of the piezoelectric actuator contact the same surface of the flexible wiring board piezoelectric actuator; and

mounting the flexible wiring board on the panel so that end portions of a second surface of the piezoelectric actuator located on an opposite side of the piezoelectric actuator from the first surface or a center portion of the first surface of the piezoelectric actuator contact ~~contacts~~ the panel through an open portion of the flexible wiring board when the piezoelectric actuator is actuated ~~except for a part formed between the pair of through-holes in the flexible wiring board.~~

Claim 15 (Currently Amended): A method for producing an input apparatus for detecting that the front surface of a panel is pressed or touched and inputting data corresponding to the detected result, the method comprising ~~the steps of:~~

forming a pair of aligned through-holes ~~aligned~~ in a flexible wiring board on which a pattern of ~~predetermined~~ electrodes are formed and straightly cutting a part of the flexible wiring board that is located between the pair of ~~[[the]]~~ through-holes;

mounting a piezoelectric actuator ~~made of~~ that includes a piezoelectric bi-morph device on the flexible wiring board so that the piezoelectric actuator bridges the pair of ~~[[the]]~~ through-holes and soldering and electrically connecting wiring terminals formed at ~~[[one]]~~ a first end portion of the piezoelectric actuator ~~[[and]]~~ to the ~~predetermined~~ electrodes formed on the flexible wiring board;

pulling out the part of the flexible wiring board that is located ~~formed~~ between the pair of ~~[[the]]~~ through-holes in the flexible wiring board so that the part is positioned on ~~[[the]]~~ an upper surface of the piezoelectric actuator; and

mounting the flexible wiring board so that end portions of the upper surface of the piezoelectric actuator or a center portion of a lower surface of the piezoelectric actuator contact ~~contacts~~ the panel through an open portion of the flexible wiring board when the piezoelectric actuator is actuated ~~except for the part formed between the pair of the through-holes in the flexible wiring board.~~

Claim 16 (Withdrawn-Currently Amended): The method for producing the input apparatus as set forth in claim 15, wherein the mounting a piezoelectric actuator includes ~~soldering step is performed by~~ solder-fixing ~~the other~~ a second end portion of the

piezoelectric actuator [[and]] to a portion that the flexible wiring board that contacts the piezoelectric actuator.

Claim 17 (Withdrawn): A portable electronic apparatus having the input apparatus as set forth in claim 1.